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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,424	07/27/2000	Mamoru Uchida	1403-0203P	2636

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 01/28/2003 //

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,424

Applicant(s)

UCHIDA ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

provisional obvious type double patenting rejection

2) In copending 09/714225, claim 1 was *amended to additionally include* the modulus ratio E1/ E2 of 1-4 so that claim 1 of this application and claim 1 of 09/714225 require the combination of specified radially oriented short fibers and specified hardness and specified E1/E2.

The modulus ratio of E1/ E2 of 1 to 4 in claim 1 of copending 09/714224 corresponds to the modulus ratio E1 / E2 of 1.1 to 4 in this application.

The hardness of 50-75 in claim 1 of copending 09/714224 corresponds to the hardness of 45-75 in claim 1 of this application.

The non-metallic short fibers of copending 09/714224 correspond to the glass / carbon fibers of this application.

3) The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4) **Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 and 5-7 of copending Application No. 09/714224.**

Copending application 09/714224 and this application have a common assignee.

Amended claim 1 of this application and amended claim 1 of copending 09/714224 are substantially the same except for the limitation of "each region having an average circumferential length of at least 5 mm". However, claim 1 of this application fails to exclude the limitation of "each region having an average circumferential length of at least 5 mm".

The limitations regarding the short fibers, the rubber hardness and the ratio $E1 / E2$ in claim 1 of this application would have been obvious in view of the description of the short fibers, the hardness and the ratio $E1 / E2$ in at least claim 1 of copending 09/714224. Claim 2 of copending 09/714224 specifically describes glass fibers or carbon fibers.

This is a provisional obviousness-type double patenting rejection.

prior art rejection

5) **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '204 (JP 62-191204) in view of Japan '603 (JP 3-258603) and Japan '214 (10-129214 and optionally further in view of Lucas et al (US 5967211).**

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Japan '204 discloses a tire for use on snow and ice having a tread including **rubber and radially oriented non-metallic short fibers**. The secondary art to Japan '603 and the optional Lucas et al strongly motivate one of ordinary skill in the art to use the claimed relatively low hardness; it being emphasized that (1) the short fiber containing tread of Japan '204 is used on snow and ice and (2) the secondary art suggests using a relatively low hardness for a short fiber containing tread which is to be used on ice. The motivation for using the claimed relatively low hardness includes enhancing ice traction. See for example col. 2 lines 46-54 of Lucas et al. Having the motivation to use such a relatively low hardness, one of ordinary skill in the art would have been motivated by Japan '214 to ensure the desired relatively low hardness by using 5-30 parts of the radially oriented short fiber and thereby satisfy the claimed modulus ratio $E1 / E2$. The combination of the prior art is explained in more detail below:

Japan '204, directed to a tire having good anti-skid proofing on snowy or icy road, discloses a pneumatic tire having a tread comprising 100 parts tread rubber such as natural rubber (a diene rubber) and 5-60 parts short fibers such as glass fibers or carbon fibers. The short fibers are radially oriented (oriented orthogonal to the outer surface of the tread 4). Japan '204 does not specifically recite the hardness of the tread.

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the tread rubber of Japan '204's tire which is to be used on snowy or icy roads such that the hardness of the tread rubber is 45-75 degrees at -10 degrees C since (1)

Japan '603 suggests using a tread rubber having a hardness of 45-50 JIS for a tire, which like the tire of Japan '204 contains radially oriented short fibers in the tread and is used on an ice road surface and optionally (2) Lucas et al, which also describes a tire tread having short fibers therein, suggests using a tread rubber having a shore A hardness of 45-65 (a relatively soft rubber) for enhancing ice traction. Hence: The applied prior art strongly motivates one of ordinary skill in the art to use rubber having the claimed hardness for the tread of Japan '204. Each of the tires of Japan '204, Japan '603 and Lucas et al are to be used on ice. Each of the tires of Japan '204, Japan '603 and Lucas et al have a tread comprising short fibers. Japan '603 suggests using the claimed hardness in combination with radially oriented short fibers. Lucas et al motivates one of ordinary skill in the art to use the claimed hardness to enhance ice traction. Enhancement of ice traction is desired in the tire of Japan '204 since Japan '204 teaches that the tire is for use on snowy or icy roads.

As to the fiber length / diameter, it would have been obvious to use a fiber length of 0.1 - 5.0 mm and a diameter of 1-100 μm for the short fibers of Japan '204 in view of (1) Japan '204's teaching to use short fibers having a fiber length of 1-20 mm (bottom right of page 21), and (2) Japan '214's teaching to use radially oriented short fibers having a length of 0.2 - 1.0 mm (20 - 1000 μm) and L/D of 200-2000 (column 3 paragraph 19).

As to E1 / E2, the limitation of E1 / E2 being 1.1 to 4 at 25 degrees C (this ratio being descriptive of a small amount of fibers being radially oriented) would have been obvious in view of (1) Japan '204's teaching to orient the short fibers such that they are

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orthogonal to the outer surface of the tread (i.e. radially oriented) to improve skid proofing of the tire on icy or snowy road and (2) Japan '214's teaching that, when using radially oriented short fibers, care should be taken to use less than 30 parts short fibers because if more than 30 parts of short fibers are used the hardness of the tread will be too high and the grip nature will fall.

As to secondary considerations, the examples in the specification have been considered but are not persuasive of non-obviousness. The results shown in the invention examples 1 and 2 and comparative examples 3, 4 and 5 are the **expected results** in view of (1) Japan '204's teaching to use radially oriented short fibers to improve skid proofing on icy roads, (2) Japan '603 / Lucas et al's suggestion to use the claimed relatively low rubber hardness in order to improve ice traction and especially in view of (3) Japan '214's teaching to use a small amount of short fibers such as 5 parts by weight so that (a) the hardness of the tread is not too high and (b) the grip nature will not fall. It is acknowledged that Japan '214 is directed to an off road tire. However, the teachings of Japan '214 are applicable to Japan '204 since each of Japan '214 and Japan use radially oriented short fibers in a tire tread.

Remarks

6) Applicant's arguments filed 12-9-02 have been fully considered but they are not persuasive.

Applicant comments that Japan '204 discloses a skid proof tire. The examiner comments that Japan '204 discloses a tire which like applicant's tire is to be used on

snow and ice and which like applicant's tire has a tread containing radially oriented glass short fibers.

Applicant argues that Japan '204 and Japan '603 do not contain working examples using glass fibers and do not suggest amounts of glass or carbon fibers to be added. Applicant's argument is not persuasive simply because Japan '204 expressly discloses using 5-60 parts glass short fibers in a tire tread for use on snow and ice. See abstract of Japan '204.

Applicant argues that the short fibers in Japan '603 are buried in the rubber instead of dispersed in the rubber. More properly, Japan '603 instructs one of ordinary skill in the art that a relatively low hardness can and should be used for rubber of a tire tread to be used on ice. Lucas et al specifically explains that the reason for using a relatively low hardness is to obtain enhanced ice traction. This benefit is desirable in and applicable to Japan '204's tire because Japan '204's tire is to be used on ice.

Applicant argues that Japan '214 and Lucas only refer to organic fibers and do not mention glass or carbon fibers. More properly, Japan '214 broadly teaches that the staple fiber is the "conventional thing" for example nylon, polyester, aramid, rayon, etc. Conventional fibers include glass fiber and carbon fibers. See abstract of Japan '204. Also, note that Japan '204 is specifically discussed by Japan '214. See paragraph 6 of Japan '214.

With respect to the modulus ratio $E1/E2$, applicant states "[i]t is only after small amounts (3-20 parts by weight) of glass fibers or carbon fibers are used as short fibers that the equation $1.1 \leq E1 / E2 \leq 4$, an element that is claimed, is satisfied." (page 8 of

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response filed 12-9-02). First: There is no evidence of record showing that use of glass or carbon fibers (in contrast to a small amount of radially oriented short fibers) is required to obtain the range of 1.1 to 4 for modulus ratio $E1 / E2$. Second: As indicated by applicant, the modulus ratio $E1 / E2$ is affected by the amount of the radially oriented short fibers – the ratio of $E1 / E2 = 1.1$ to 4 being obtained with a small amount of radially oriented short fibers. As to a small amount of fibers, claim 1 requires 3-20 parts by weight short fibers. This range overlaps the range of 5-60 parts short fibers disclosed by Japan '204. The end point of 5 parts by weight of the range of Japan '204 falls within the claimed range of 3-20 parts by weight. Furthermore, Japan '214's teaching to use 5-30 parts by weight to prevent the hardness from becoming too high and to prevent grip from falling motivates one of ordinary skill in the art to use the lower part of Japan '204's range (the lower part of Japan '204's range substantially corresponding to the claimed range of 3-20 parts. Third: The specification teaches that if the amount of short fiber is more than 28 parts by weight (if the ratio $E1 / E2$ is greater than 4), then the tread block rigidity becomes excessively high and adhesion lowers. See specification page 5 lines 24-26 and page 6 lines 25-28. These are the **expected results (instead of unexpected results)** from Japan '214's teaching that hardness becomes too high and grip falls if more than 30 parts by weight short fiber is used.

7) No claim is allowed.

8) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

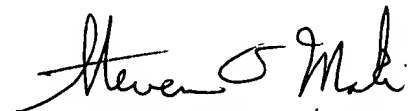
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
January 24, 2003


STEVEN D. MAKI 1-24-03
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733